Decentralized Sewerage System Option

Final Recommendations of the Toms Creek Sewerage Options Working Group

Summarized from Presentation to Blacksburg Town Council
on April 24, 2001

June 2, 2003

Purpose

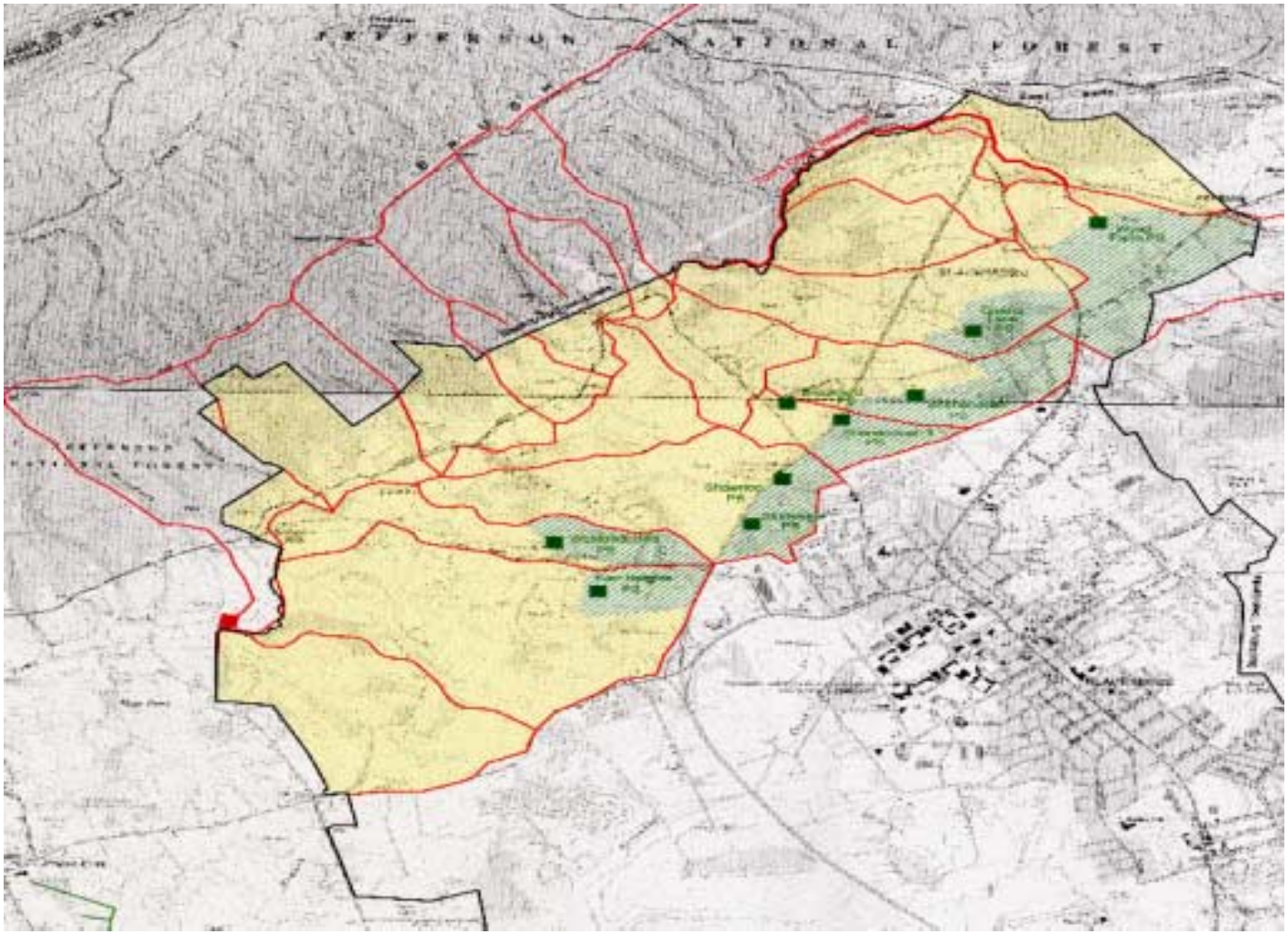
- **To develop a consensus on the most appropriate one or two decentralized systems to be considered for "standardized" use in Toms Creek Basin.**
- **Following this consensus by the Working Group, the selected systems will then be compared to Sanitary Sewer and to a STEP or STEG with Centralized Collection.**

Recommendations

1. **The basin should be subdivided into approximately 10 to 20 collection and treatment clusters with exact number to be determined by a detailed engineering study. The size and the shape of each cluster will be determined by topography and property boundaries.**

2. **Each Cluster may serve approximately 100 to 300 homes.**

Recommendations



Recommendations

3. **Collection systems within each cluster should consist of a septic tank effluent gravity sewer (STEG), or septic tank effluent pumped (STEP) sewer dictated by cost and engineering feasibility, (topography, depth to rock, etc.)**

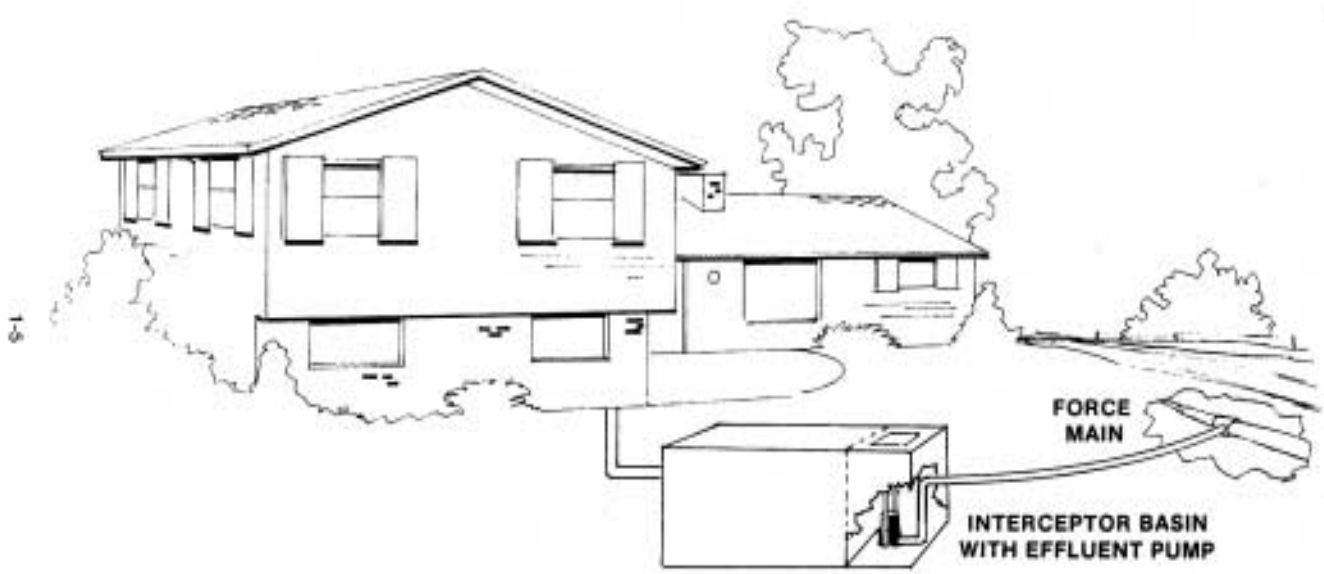


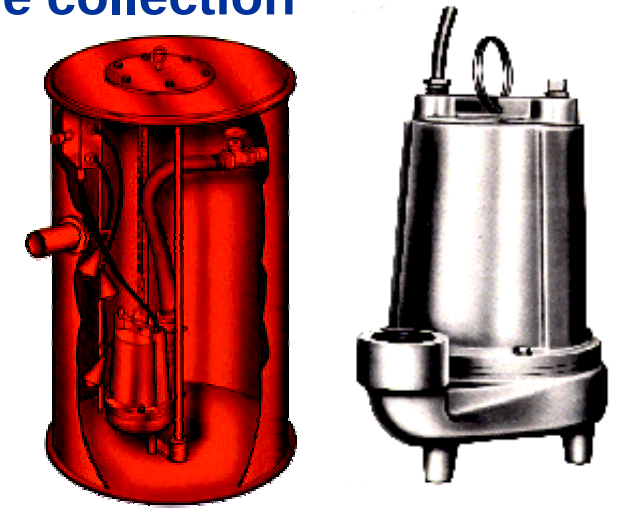
Figure 1-4

Recommendations

4. ***Standardized*** **pumping** ***equipment*** **should be used for all STEP systems within the basin.**

5. ***Centralized management*** **and maintenance should be provided for all STEP/STEG components.**

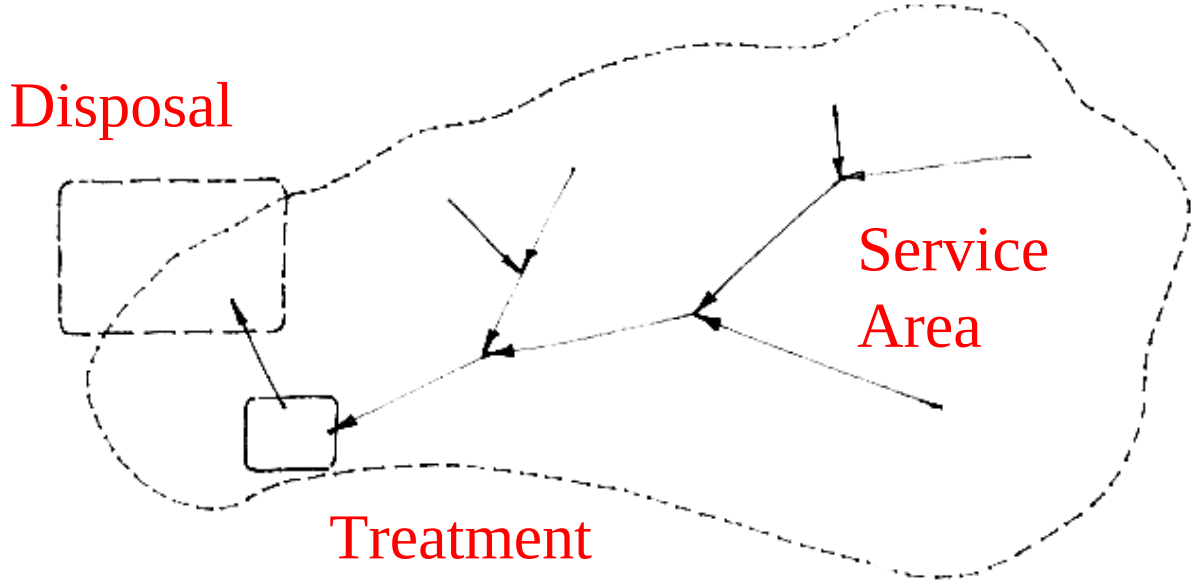
6. **The Town or the Town's agent should construct all necessary interceptor lines within the collection systems.**



Recommendations

7. **Treatment and disposal facilities should be located within or as close as possible to each cluster system.**

8. **The Town should obtain easements to allow future construction of interceptor lines that are not initially constructed.**



Recommendations

9. **Treatment of STEP/STEG effluent should be provided through the use of recirculating media filters.**

10. **Deep Cell Lagoons should be considered for larger systems serving more than one cluster and as a means of "off loading" flow from existing Toms Creek Basin pump stations.**

RMF, Pegram, TN
100 homes, a school, shops

School lagoon, Cheetham County, TN; 7 schools

Recommendations

11. **The *design* of the treatment systems should be *standardized* as much as possible.**

12. **The design should be *modular* to allow use with different flowrates at different sites, and to allow phased construction as flows increase.**

13. **The type of *media* to be used in the filters should be *standardized* for ease of future operation and maintenance.**

14. **The make and model of all *mechanical components* should be *standardized* as much as possible for ease of future operation and maintenance.**

Recommendations

15. **When necessary, disinfection of all treated effluent prior to disposal should be provided through the use of ultraviolet light or chlorination.**

Recommendations

16. **Final disposal of treated effluent by *subsurface land application* options is preferred.**

17. **The disposal sites should be located as close as possible to the treatment sites and collection sites within each cluster.**

As new technologies become available they should be explored and considered for use in the Toms Creek Basin.